

CLAIMS

1. A DC/DC converter for, through the opening and closing of a switching element, supplying power from an input power supply, via a coil, to an output terminal connected to a load, and adjusting the voltage of the output terminal, comprising;

an element for coil current detection, provided interposed between the coil and the output terminal;

a smoothing capacitor connected to the load side of the element for coil current detection, for smoothing the voltage of the output terminal;

a reference current value control circuit for detecting the voltage of the coil side of the element for coil current detection and for controlling a reference current value of a current flowing in the coil; and

a feedback circuit for, in synchrony with a reference clock of a clock generator, closing the switching element, and opening the switching element when the current flowing in the coil exceeds the reference current value.

2. The DC/DC converter according to claim 1, wherein the element for coil current detection is a coil current detection resistor.

3. The DC/DC converter according to claim 1 or 2, wherein

the smoothing capacitor is a ceramic capacitor.

4. The DC/DC converter according to claim 1 or 2, wherein the equivalent series resistance value of the smoothing capacitor is smaller than that of an electrolytic capacitor.

5. The DC/DC converter according to claim 1 or 2, wherein the resistance value of the element for coil current detection is larger than the equivalent series resistance value of the smoothing capacitor.

6. The DC/DC converter according to claim 1 or 2, wherein the zero frequency of a frequency characteristic is determined by the element for coil current detection and the smoothing capacitor.

7. A DC/DC converter for, through the opening and closing of a switching element, supplying power from an input power supply, via a coil, to an output terminal connected to a load, and adjusting the voltage of the output terminal, with feedback to the switching element, comprising;

an element for coil current detection, provided interposed between the coil and the output terminal, for detecting current flowing in the coil; and

a smoothing capacitor connected to the load side of the element

for coil current detection, for smoothing the voltage of the output terminal, wherein

the zero frequency of a frequency characteristic is determined by the element for coil current detection and the smoothing capacitor.